CALIFORNIA
ENERGY
COMMISSION

GRANT SOLICITATION

Emerging Technology Demonstration Grant (ETDG) Program

Solicitation Number PON-08-006

Subject Area: PIER Industrial, Agriculture & Water Energy Efficiency RD&D program

APPLICATION MANUAL

January 2009

Arnold Schwarzenegger, *Governor*

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GRANT SOLICITATION AND APPLICATION PACKAGE

Public Interest Energy Research (PIER)

Industrial/Agriculture/Water (IAW) Research Development and Demonstration (RD&D)

Subject Area: Emerging Technology Demonstration Program

1. **Release Date:** January 13, 2009

2. Due Dates: Abstract: March 5, 2009 at 4:00 p.m.
Final Proposal: April 30, 2009 at 4:00 p.m.

3. Purpose of Program:

The State of California has identified energy efficiency as a major strategy to reduce the state's energy use. Industrial, agriculture and water (IAW) customers consume a large portion of California's energy and can make a major contribution to the reduction of electricity and natural gas use by adopting new energy efficient technologies. This grant solicitation by the California Energy Commission (Energy Commission) through its Public Interest Energy Research (PIER) program is soliciting both electricity and natural gas energy efficiency technologies in the areas of Industrial, Water and Water Treatment, Data Centers and Energy Storage (see Attachment F). This competitive grant solicitation seeks emerging technologies that are past the "proof-of-concept" stage, currently have a convincing laboratory-scale or a pilot-scale demonstration, and are now ready to be demonstrated in an industrial setting. The demonstration at industrial sites will be partially funded by the PIER program, and its performance will be monitored by one of the California utilities (IOUs or POUs) or their designees. Proven technical and economic performance of these demonstrations to the utilities' satisfaction could make these technologies eligible to participate in the utilities' energy efficiency rebate programs. The rebates can expedite customer acceptance and market development for the demonstrated technologies. After successful demonstration at an industrial site, it is anticipated that there will be a 3-4 year time frame to deploy the demonstrated technology at a large scale. Applicants should address this in their proposals.

4. Availability of Solicitation Documents and Information:

This solicitation and all supporting documents and forms can be found at http://www.energy.ca.gov/contracts/index.html under "Current Solicitations." Interested parties may also register on the electronic mailing list on this webpage to receive notifications of any changes to this solicitation.

For those parties without Internet access, copies of solicitation documents and information can be obtained by contacting:

Grants and Loans Office
California Energy Commission
1516 Ninth Street, MS-1
Sacramento, CA 95814
Telephone: (916) 654-4381

In addition, interested parties may request to be added to the mailing notification list to receive changes made to this solicitation.

5. PIER and Industrial/Agriculture/Water Program Background:

In 1996, Governor Wilson signed into law Assembly Bill (AB) 1890 (1996 California Statutes, Chapter 854) which provided authority for a fundamental restructuring of California's electric services industry. Among other things, AB 1890 added Section 381 to the Public Utilities Code, requiring that at least $62.5 million be collected annually from investor-owned electric utility ratepayers for "public interest" energy RD&D efforts not adequately provided by competitive and regulated markets. The Energy Commission administers these funds through the PIER program. In August 2004, the California Public Utilities Commission (CPUC) issued Decision (D.) 04-08-010 making funds available for public interest natural gas research and development (R&D) projects. Public Interest Natural Gas Research must conform to all of the following criteria:

- Advances science or technology.
- Research benefits accrue to California citizens.
- The research is not adequately addressed by competitive or regulated entities.
- Extend the use of renewable energy for industrial applications.

In general, the research funded by this program should improve natural gas energy efficiency and/or electricity efficiency, deploy renewable technologies, and otherwise provide benefits to the public. PIER brings new energy services and products to the marketplace and creates statewide environmental and economic benefits.

PIER funding efforts are focused on the following RD&D research areas:

1. Industrial/Agricultural/Water End-Use Energy Efficiency (IAW)
2. Buildings End-Use Energy Efficiency
3. Energy-Related Environmental Research
4. Energy Systems Integration
5. Environmentally-Preferred Advanced Generation
6. Renewable Energy Technologies
7. Transportation Research

Significant energy issues in each of the PIER program areas have been identified. The PIER program focus has been directed towards resolving these issues and meeting the overall PIER objectives of improving affordability, reliability, health and safety, California's economy, environmental outcomes, and consumer choices relevant to electricity supply and use in California.

The industrial, agriculture and water sectors in California use 30 percent of all the electricity consumed annually in the state. These sectors are vital to California's economy and rely on an affordable, reliable and sustained supply of energy. Through RD&D, the program seeks to improve the energy efficiency of industrial processes, agricultural operations, and water and wastewater treatment plants. These sectors are also sensitive to the reliability and quality of electric power. Therefore, besides improving energy efficiency, the program also strives to research, develop, and demonstrate technologies that help these sectors deal with power quality and power supply reliability issues if they directly improve energy efficiency or energy demand.

Due to California's substantial industrial base, the energy reliability of these industries is critical not only for California's economy but for the national economy as well. The major industries - such as food processing, electronics and e-commerce, petroleum refining and production - all depend on continued low-cost and reliable energy. PIER IAW funded projects will focus on technology demonstration activities that will provide these industries and the agricultural and water sectors the ability to address energy efficiency, related pollution and greenhouse gas emissions. All three sectors must keep low operating costs while maintaining environmentally clean and energy-efficient operations. As part of this solicitation, the PIER IAW program will focus on emerging technologies to attain this difficult yet critical balance.

This grant solicitation is intended to address the technical areas relevant to industrial, agricultural, and water sectors in a matter consistent with the above paragraphs. The proposals must advance the state-of-the-art in a novel manner not currently addressed by the public and/or private entities. Proposals currently adequately funded by these entities need not apply. The proposals must be relevant to the State of California, economically feasible, currently past the "proof-of-concept" stage with a convincing laboratory-scale or a pilot-scale demonstration, and now ready to be demonstrated in an industrial setting.

6. Eligible Projects:

The Energy Commission is seeking proposals targeting industrial/agricultural/water energy efficiency (electricity, natural gas or demand reduction) in California. Proposals should reflect a comprehensive understanding of the current state of technologies in the chosen industrial, water or agricultural area and must represent technology that is not adequately covered by the competitive market. Proposals must also provide a market connection for the proposed technology and a potential benefit to electricity and/or natural gas ratepayers in California.

For the purpose of this solicitation, the term "industrial" is defined to also include wastewater treatment facilities, commercial facilities that house data centers, and post-

harvest processing of agricultural products (food processing). While farm production technologies are NOT eligible for funding, energy efficient irrigation technologies for farming are eligible. Please see Attachment F for more information on the Targeted Technology Areas.

7. Eligible Applicants:

This is an open solicitation seeking proposals from public and private entities and individuals actively involved in electricity and natural gas efficiency research, development and demonstration. To be eligible, Applicants must present a team with demonstrated capabilities in successful completion of technology development and demonstration projects.

While there is no requirement for Applicants to reside in California or that the technology development work be performed in California, the proposed demonstration site must be located in California and the project must directly benefit California's electric and/or natural gas ratepayers. California business entities as well as non-California business entities conducting intrastate business in California are required to register and be in good standing with the California Secretary of State to enter into a funding agreement with the Energy Commission. If not currently registered with the California Secretary of State, Applicants are encouraged to contact the Secretary of State's Office as soon as possible to avoid potential delays in beginning the project if successful under this solicitation. For more information, contact the California Secretary of State via their website at www.sos.ca.gov.

8. Funding Information:

Up to $4.4 million of FY 2008/09 PIER Electricity ($4,000,000) and Natural Gas ($400,000) funding is available under this solicitation for grant awards. Submitted proposals will be divided into four categories (based on Applicant's response to Attachment A) with the indicated funding amount as shown below:

- Industrial (up to $2,000,000)
- Water and Waste Water Treatment (up to $800,000)
- Data Centers (up to $800,000)
- Customer-side Energy Storage Applications (up to $800,000)

A maximum of $400,000 is available to Applicants per grant project. If a high number of exceptional, desirable projects are proposed, the Energy Commission may release additional funds to fund additional projects under this solicitation.

If requested funds for projects having only natural gas benefits exceed the amount of PIER Natural Gas funds contained in this solicitation ($400,000), the Energy Commission may seek to augment the level of PIER Natural Gas funding. However, if no additional funds are available, the Energy Commission reserves the right to not fund natural gas projects once all PIER Natural Gas funds have been allocated to the highest ranked natural gas proposal(s). This may result in higher scoring natural gas projects not being funded while lower scoring electricity projects are funded. The Energy

Commission reserves the right to make the final determination on how to allocate Electricity and Natural Gas funding.

9. Match Funding Requirements:

Match funding equivalent to 25% of the requested PIER funding is required either in cash or in-kind. Proposals having greater match funding are desirable and will be scored higher in Attachment H under category 8 “Match Funding (Cost)”. It is also desirable to have match funds utilized first especially for purchase of equipment and hardware.

10. Payment of Prevailing Wages:

Some projects submitted under this solicitation might be considered public works pursuant to the California Labor Code. If the project includes public work, prevailing wage is required. The California Department of Industrial Relations (DIR) has jurisdiction to decide whether a particular project is or is not a public work. If the proposed project involves construction, alteration, demolition, installation, repair or maintenance work, it probably would be considered by DIR to be a public work. Examples of the activities that would probably lead DIR to find that the project involves public works include: cement work, site preparation such as grading, surveying, electrical work such as wiring, and carpentry work. Certain workers are entitled to prevailing wage such as equipment operators, surveyors, carpenters, laborers, etc. However, other trades are not entitled to prevailing wage such as engineers and project superintendents.

Applicants are encouraged to determine if the proposed project involves public works as soon as possible. In order to determine if the proposed project involves public works, Applicants should contact DIR. If the Applicant has not received a determination from DIR that the project is not a public work, proposed project budgets must provide for the payment of prevailing wages. Please indicate whether the proposed budget includes prevailing wage.

If the proposed project is a public work, DIR maintains a list of covered trades and the applicable prevailing wage. The agreement will include the requirements for public works, such as paying prevailing wage, keeping payroll records, complying with working hour requirements, and apprenticeship obligations. See the Special Condition (Attachment K) regarding Prevailing Wage and the accompanying forms (Attachments L and M) for more information.

For detailed information about prevailing wage and the process to determine if the proposed project is a public work, see Attachment M.

11. California Environmental Quality Act (CEQA):

Some of the proposals selected for funding may meet the definition of a “project” for purposes of CEQA (see Public Resources Code section 21000 et seq.) If this occurs, the Energy Commission’s Legal Staff will review the project to determine whether an exemption applies that would prevent further actions under CEQA. If no exemption

applies, certain CEQA requirements (e.g., preparation of a negative declaration or environmental impact report) will have to be met prior to the Energy Commission approving the grant. The Applicant will have to pay the cost for these activities. Please refer to Title 20, California Code of Regulations, Chapter 6, Article 1, including section 2308.

12. Selection of Projects and Award Process:

This grant solicitation will follow a two-stage selection process. The first stage is a request for qualification, which consists of a three (3) page project abstract that will be scored on a pass/fail basis (Attachment G).

If the proposal passes the first stage selection process, it will be allowed to progress to the second stage involving submission of a complete formal proposal. The first stage ensures that only those technologies that are technically advanced to the industrial demonstration stage submit the complete application. It will also provide a preliminary assessment of the applications ability to secure an industrial site.

The ability to procure an industrial demonstration site is an important requirement that must be met to both participate in this grant solicitation and receive funding for a submitted proposal. It is strongly recommended that the Applicant clearly address this issue in both stages of the project selection process.

The following process will be utilized to recommend project(s) for funding:

1. During the initial screening (stage 1), a three (3) page abstract will be submitted by potential Applicants. These abstracts will be scored on a Pass/Fail basis using the initial screening scoring criteria described in Attachment G. The scoring committee may seek input from technical reviewers both internal and external to the Energy Commission when evaluating abstracts.

2. Only abstracts that successfully pass the initial screening stage will be allowed to submit a formal proposal (stage 2). A scoring committee will then score these proposals using the scoring criteria described in Attachment H. The scoring committee may seek input from technical reviewers both internal and external to the Energy Commission when evaluating proposals.

3. The scoring committee may conduct optional interviews for clarification purposes.

4. A minimum score of 700 (out of 1000) is required to be eligible for funding. In addition, pursuant to AB 2267 (Fuentes, 2008), the California Energy Commission's Public Interest Energy Research (PIER) Program must give a priority to "California-based entities" (CBEs) when making awards. To

implement this law, the Energy Commission will award preference points if the proposal meets the criteria for a CBE as described in Attachment I.

5. Projects receiving a score of 700 or more will be ranked according to their overall score within the four categories shown below. Proposals will be placed in the one of the four categories based on the Applicant's response to Attachment A.

   - Industrial
   - Water and Wastewater
   - Data Centers
   - Customer-side Energy Storage Applications

   The Commission reserves the right to make the final determination on the categorization of all submitted proposals.

   In the event that there are no proposals receiving the minimum passing score in one or more of the categories, the Energy Commission reserves the right, at its sole discretion, to transfer and/or allocate excess funds to the other categories in order to fund additional projects.

   The scoring committee will submit the ranked list of proposals in each of the four categories to the Energy Commission's Research, Development, and Demonstration (RD&D) Policy Committee. The RD&D Policy Committee will recommend how far down the ranked list of passing proposals in each category to fund. It will also recommend how to shift any unallocated funds among the 4 categories.

   Additional funding above $4.4M may be obtained to augment the funding amount for this solicitation. The RD&D Policy Committee will recommend how to allocate any additional funds among the 4 categories. The Energy Commission reserves the right, at its sole discretion, to allocate additional funds among the categories in order to fund additional, passing projects.

6. The Energy Commission reserves the right to negotiate with Applicant(s) to modify the project scope, level of funding, or both.

7. If the Energy Commission is unable to successfully negotiate and execute a funding agreement with an Applicant, the Energy Commission, at its sole discretion, reserves the right to cancel the pending award and fund the next highest ranked eligible project in the same or other category.

8. A Notice of Proposed Awards will be released.

9. Project(s) recommended for funding will be scheduled and heard at an Energy Commission Business Meeting.

If approved at an Energy Commission Business Meeting:

10. Public agencies and non-profit organizations that receive funding under this solicitation must provide an authorizing resolution approved by their governing authority to enter into an Agreement with the Energy Commission.

11. A Grant Agreement, which includes applicable Terms and Conditions*, will be written and sent to the Recipient(s) for review, approval, and signature.

12. Once returned to the Energy Commission, the Energy Commission will fully execute the Grant Agreement. Recipient(s) are approved to begin the project only after full execution of the Grant Agreement.

* **The *PIER Grant Terms and Conditions can be found at http://www.energy.ca.gov/contracts/index.html as part of this solicitation package. Please note, however, the Energy Commission reserves the right to modify the terms and conditions prior to executing grant agreements.***

13. Schedule of Proposal and Award Process:

Release of Program Opportunity Notice	January 13, 2009
Proposal Workshop (via in person participation, teleconference, WebEx)	January 27, 2009
Deadline to Submit Questions	February 5, 2009
Post Questions and Answers to Website	February 13, 2009
Deadline to Submit 3 page Abstracts (Stage 1)	March 5, 2009 4:00 p.m.
Posting of Stage 1 Results	March 26, 2009
Deadline to Submit Proposals (Stage 2)	April 30, 2009 4:00 p.m.
Interview Applicants (if necessary)	May 11-15, 2009
Post Notice of Proposed Awards	*Estimated* May 2009
Approval of Awards at Energy Commission Business Meeting	*Estimated* July 2009

14. Proposal Workshop:

A proposal workshop will be held through in-person participation, WebEx, and conference call. Participation by prospective Applicants is optional. Please call (916) 651-2074 or refer to the Energy Commission's website at http://www.energy.ca.gov/contracts/index.html to confirm the date and time.

Public participation may be done in-person, via WebEx, and/or conference call.

Date: January 27, 2009
Time: 10:00 a.m.
Location: California Energy Commission
Hearing Room A, First Floor
1516 Ninth Street
Sacramento, California 95814

To join the WebEx meeting, click the following link and enter the meeting number and password provided below:

Topic: Emerging Technology Demonstration Grant (ETDG) Program Workshop
Date: Tuesday, January 27, 2009
Time: 10:00 a.m., Pacific Standard Time (GMT -09:00, San Francisco)
Meeting Number: **925 477 237**
Meeting Password: **meeting@10**

COMPUTER LOGON WITH A DIRECT PHONE NUMBER
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1. Please go to https://energy.webex.com and enter the unique meeting number: **925 477 237**
2. When prompted, enter your information and the following meeting password: **meeting@10**
3. After you login, a prompt will appear on-screen for you to provide your phone number. In the Number box, type your area code and phone number and click OK to receive a call back on your phone for the audio of the meeting. International callers can use the "Country/Region" button to help make their connection.

COMPUTER LOGON FOR CALLERS WITH AN EXTENSION PHONE NUMBER, ETC.
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1. Please go to https://energy.webex.com and enter the unique meeting number: **925 477 237**
2. When prompted, enter your information and the following meeting password: **meeting@10**
3. After you login, a prompt will ask for your phone number. CLICK CANCEL.
4. Instead call 1-866-469-3239 (toll-free in the U.S. and Canada). When prompted, enter the meeting number above and your unique Attendee ID number which is listed in the top left area of your screen after you login. International callers can dial in using the "Show all global call-in numbers" link (also in the top left area).

TELEPHONE ONLY (NO COMPUTER ACCESS)
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1. Call 1-866-469-3239 (toll-free in the U.S. and Canada) and when prompted enter the unique meeting number above. International callers can select their number from https://energy.webex.com/energy/globalcallin.php

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TECHNICAL SUPPORT

For help with problems or questions trying to join or attend the meeting, please call WebEx Technical Support at 1-866-229-3239.

System Requirements: To see if your computer is compatible, visit http://support.webex.com/support/system-requirements.html

Meeting Preparation: The playback of UCF (Universal Communications Format) rich media files requires appropriate players. To view this type of rich media files in the meeting, please check whether you have the players installed on your computer by going to https://energy.webex.com/energy/systemdiagnosis.php

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For assistance

You may also contact Anish Gautam at:

acgautam@energy.state.ca.us
1-916-654-4196

15. Abstract Requirements:

It is required that abstracts contain the following elements. ***Failure to include these elements WILL result in your proposal not passing the initial screening***.

- Contact information, including but not limited to: contact person's name, title, entity legal name, physical address, telephone number, fax number, email address, etc.
- Abstract must address **each** of the scoring criteria as described in Attachment G.
- Limit abstracts to a maximum length of 3 pages.
- Use a standard 12-point font and 1-inch or larger page margins and number the pages.

There are no restrictions on the number of abstracts an Applicant may submit for consideration under the four categories (see Attachment F) as long as the abstracts are not variations of the same project.

16. Abstract Submission:
One (1) original and six (6) copies of the abstract **must be received no later than the due date and time specified above**. Mail abstracts to:

California Energy Commission
Grants and Loans Office
Attn: ETDG Program
1516 Ninth Street, MS-1
Sacramento, CA 95814

Postmark dates of mailing, electronic mail (E-mail), and facsimile (Fax) transmissions are not acceptable in whole or in part under any circumstances. The Energy Commission will reject all proposals not received by the Energy Commission's Grants and Loans Office by the designated deadline.

17. Formal Proposal (Stage 2) Requirements:
It is required that proposals contain the following elements. ***Failure to include these elements WILL result in your proposal receiving a lower score and MAY result in your proposal being rejected and not eligible for funding.***

A. Proposal Cover Page:
Applicants must complete and include Attachment A.

B. Executive Summary:
The maximum length of the Executive Summary is four (4) pages. The Executive Summary must include, at a minimum, project description, project objectives, and quantitative and measurable goals to be achieved.

C. Project Narrative:
A clear statement of which targeted technology area, as defined in "Attachment F," are addressed by the proposal.

A detailed discussion of how the proposed project addresses each of the scoring criteria as described in the Attachment H. Provide sufficient detail so that reviewers will be able to evaluate the proposal against each of the criteria.

Description of the state-of-the-art of the proposed technology and the current status of the research in the area of the proposed project, barriers to advancement of the technology and why the proposed project is the next logical step to advance the state-of-the-art of the technology or increase the penetration of the technology in the marketplace.

Show project collaboration and coordination, especially the pathway to wider use and commercialization of this technology.

Project budget information, including the source(s) of match funding, a justification for the share of match funding, and the reasons why this project is not likely to be funded by competitive or regulated markets.

Any other significant factors to enhance the value of the proposal, including highlights of the previous work and innovative features related to the proposed project.

D. Scope of Work:

Applicants must include a completed Scope of Work following the template contained in Attachment B. Instructions for completing the Scope of Work template are included in Attachment C.

Provide a description of quantified targets, goals and market application. Explain the target market and the size of the market where this application can be applied. In addition, the proposal must provide the estimated energy savings or demand reduction at the demonstration site.

Scope of Work should provide anticipated direct and indirect benefits to California electricity ratepayers.

E. Resumes:

Short resumes, maximum of two (2) page(s) each, of the Principal Investigator (PI) and key research partners (individuals in your organization or subcontractors), emphasizing experience related to activities to be performed in the project.

F. Budget:

Applicants must complete and include the budget forms contained in Attachment D.

The budget should allow for the expenses of a Kick-off Meeting, at least two Critical Project Review meetings, and a Final Meeting. It is anticipated that meetings will be conducted at the Energy Commission located in Sacramento, CA. Applicants should also budget for permits, insurance, etc and limit the funding source to match funds.

The budgets should allow for the preparation and submission of monthly progress reports (2-4 pages each) during the approved term of the agreement, and a final report that follows Energy Commission guidelines which can be found at: http://www.energy.ca.gov/contracts/pier/contractors/index.html.

The budget must reflect estimates for ***actual*** costs to be incurred during the approved term of the project. The Energy Commission can only approve and reimburse expenditures for actual costs that are properly documented in accordance with the PIER Grant Terms and Conditions.

The budget must ***NOT*** include any profit from the proposed project, either as a reimbursed item or as match share. In accordance with the PIER Grant Terms and Conditions, NO PROFIT IS ALLOWED UNDER GRANT AGREEMENTS. Please review the PIER Grant Terms and Conditions for additional restrictions and requirements.

G. Schedule of Products and Due Dates:
Applicants must complete and include a Schedule of Products and Due Dates following the template specified in Attachment E. The Schedule of Products and Due Dates must be consistent with the information provided in the submitted Scope of Work.

H. CBE Preference Points Form:
Eligible applicants wanting to receive California-Based Entity (CBE) preference points who meet the definition of a CBE (see Attachment I) must complete and submit the CBE Preference Points Form included as Attachment J of this solicitation.

18. Proposal Guidelines (Stage 2):
Proposals should adhere to the following guidelines. ***Failure to adhere to these guidelines MAY result in your proposal being rejected and not eligible for funding.***

A. Limit proposals to a maximum length of 50 pages.

B. Use a standard 12-point font and 1-inch or larger page margins and number the pages.

C. Project duration cannot be more than two years.

D. All project expenditures (match share and reimbursable) must be expended within the approved term of the funding agreement.

E. Maximum PIER funding requests per project cannot exceed $400,000.

F. Provide hard copies of one (1) original and six (6) copies of the proposal and a CD containing all the documents related to the proposal. The original must be signed by an authorized representative of the Applicants organization. The original should be bound only with a binder clip; the

other six (6) copies should be bound only with a staple in the upper left corner. **No covers or other types of bindings are allowed.**

G. The purchase of equipment (items with a unit cost greater than $5,000 and a useful life greater than one year) with PIER funds will require disposition of purchased equipment at the end of the project. Typically, Grant Recipients may continue to utilize equipment purchased with PIER funds as long as the use is consistent with the intent of the original grant Agreement. There are no disposition requirements for **equipment purchased with match share funding.**

19. Confidential Information:

No confidential information will be accepted during the proposal and selection phase of this solicitation (this includes the abstracts submitted in Stage 1). If any confidential information is submitted, the entire proposal will be rejected and will not be eligible for funding. Proposals containing confidential information will be returned to the Applicant.

While discouraged, Applicants may ***propose*** to deliver confidential products during the course of the project if funded. If necessary, instructions on submitting confidential products will be provided by the Energy Commission prior to executing the Grant Agreement.

20. Proposal Submission Requirements:

One (1) original and six (6) copies of the grant application and a CD containing all the documents related to the proposal **must be received no later than April 30, 2009 by 4:00 p.m**. Mail completed grant applications to:

California Energy Commission
Grants and Loans Office
Attn: ETDG Program
1516 Ninth Street, MS-1
Sacramento, CA 95814

Postmark dates of mailing, electronic mail (E-mail), and facsimile (Fax) transmissions are not acceptable in whole or in part under any circumstances. The Energy Commission will reject all proposals not received by the Energy Commission's Grants and Loans Office by the designated deadline.

Applications that do not include at least one (1) signed original and six (6) copies or have not been received by the Energy Commission by the specified due date and time will not be considered for funding.

21. Grounds for Rejection:

Proposals WILL be rejected and not considered for funding if:

A. No abstract was submitted, or if the abstract did not pass the stage 1 scoring criteria.

B. The proposal is not received by the Energy Commission's Grants and Loans Office by the stated due date and time.

C. The proposal does not clearly state which Targeted Technology Area is addressed by the proposal (see Attachment F) as defined under "Eligible Projects" (see Section 6).

D. The proposal contains confidential information.

E. The Applicant proposes a project that has already been addressed or is being addressed.

F. Research has no clear market connection or does not address an issue or problem relevant in California.

Proposals ***MAY*** be rejected and not considered for funding if:

G. The proposal does not address each element listed under "Formal Proposal Requirements."

H. The proposal does not adhere to the guidelines listed under "Proposal Guidelines."

I. An Applicant submits more than one abstract for the same project or for minor variations of the same project.

22. Cancellation or Amendment of this Solicitation:

The Energy Commission reserves the right to amend or cancel this solicitation. It is the policy of the Energy Commission not to solicit proposals unless there is a bona fide intention to award an Agreement. The Energy Commission reserves the right to do any of the following:

- Cancel this solicitation.
- Revise the amount of funds available under this solicitation.
- Amend or revise this solicitations needed.
- Reject any or all proposals received in response to this solicitation.

23. Whom do I contact for more information and Questions:

Questions regarding this solicitation and the ETDG Program should be sent via email or letter to:

Anish Gautam
California Energy Commission
PIER Program
1516 Ninth Street, MS-49
Sacramento, CA 95814
acgautam@energy.state.ca.us

Questions submitted to the Energy Commission by the specified deadline will be answered and posted on the Energy Commission website at www.energy.ca.gov/contracts as part of this solicitation package. The person and organization submitting a question will not be identified.

24. Attachments:

A. Grant Proposal Cover Page
B. Scope of Work Template
C. Instructions for the Scope of Work Template
D. Budget Forms
E. Schedule of Products and Due Dates
F. Targeted Technology Areas
G. Stage 1: Evaluation/Scoring Criteria
H. Stage 2: Formal Proposal Scoring Criteria
I. Preference Points for California-Based Entities (CBE)
J. CBE Preference Points Form
K. Prevailing Wage Special Condition Template
L. Prevailing Wage Compliance Certificate
M. Prevailing Wage Compliance Qs & As
N. PIER Terms and Conditions with Payment Request Form

ATTACHMENT A

PROPOSAL COVER PAGE TEMPLATE AND INSTRUCTIONS

[The proposal cover page template for this solicitation is a separate Microsoft Word document. The template can be accessed at www.energy.ca.gov/contracts as part of this solicitation package.]

ATTACHMENT B

SCOPE OF WORK TEMPLATE

[The scope of work template for this solicitation is a separate Microsoft Word document. The template can be accessed at www.energy.ca.gov/contracts as part of this solicitation package.]

ATTACHMENT C

INSTRUCTIONS FOR THE SCOPE OF WORK TEMPLATE

The Scope of Work Template contains the framework to use to complete the Scope of Work. The template has instructions in blue type within < > that are to be deleted as it is filled out. The following are additional instructions for the items in the Scope of Work. At the end of these instructions, there are examples of Technical Tasks to provide guidance in drafting your own.

I. Technical Task List

Insert the Task numbers and Task names for the project. Put an "X" in the CPR column next to the Tasks that contain a Critical Project Review. Add additional rows as necessary.

II. Key Name List

List key parties within the agreement as described below. See Terms and Conditions for more information regarding key parties within the agreement.

> ***Key Personnel*** are employees or consultants who are critical to the outcome of the project and are being paid with PIER funds. Key Personnel have expertise in the project field or experience that is not available from another source. Replacing these individuals may be difficult due to their expertise and may affect the outcome of the project. Since key personnel can come from various organizations working on the agreement, they should be written as follows to avoid confusion: "John Smith – Acme Company"
>
> ***Key Subcontractors*** are contractors, subcontractors, or vendors who are critical to the outcome of the project and are being paid with PIER funds. Key Subcontractors have expertise in the project field or experience that is not available from another source. Replacing these individuals may be difficult due to their expertise and may affect the outcome of the project.
>
> ***Key Partners*** are participants in the Project who are not receiving PIER funds and are not providing Match Funds but are integral to the outcome of the Project. Key Partners may be providing space, testing facilities, demonstration sites or may be a manufacturer or other implementer of the Project results. Individual key employees from the Key Partner organizations are listed under "Key Personnel." "Key Partners" are company names.

III. Glossary

Spell out each acronym used in the Scope of Work. Also include definitions of odd or unusual terms. Think about the document from the perspective of someone who does not work in the particular industry or discipline.

IV. Problem Statement

Describe the problem that this research will address in one to two paragraphs maximum.

Describe the scientific and technological baseline that is the current state-of-the-art or the developmental status of the subject technology to be advanced.

Identify entities engaged in development of the subject technology. Identify whether or not the proposed project duplicates or overlaps with other ongoing RD&D. Emphasize past advances that you have made in areas relevant to the proposed work.

Describe the deficiencies that exist for the subject technology. The deficiencies should illuminate the question of *why* the proposed project should be done.

Identify and discuss the principal barriers, key unresolved issues, and knowledge gaps that hinder the development and widespread use of the resource or the products of the proposed research in California. Barriers may be grouped under the following categories, or other categories that the Applicant deems appropriate:

- Scientific and technological – such as insufficient scientific understanding of relevant phenomena and processes, inadequate data acquisition technologies, low reliability, low power density, low energy density, lack of detailed engineering designs and design trade-off analyses, inadequate component development, high cost of fabrication techniques, insufficient field testing, or insufficient field demonstrations.

- Market – such as inadequate consumer knowledge or limited system supply and maintenance infrastructure.

- Institutional – such as regulatory hurdles (e.g., atmospheric emission limitations) or lack of adopted standards.

- Environmental – such as H_2S emissions, excessive noise, or ground water contamination.

Explain why these barriers have not been addressed by the marketplace or by other institutions.

Part 2.
Explain why the barriers should be addressed at this time. For example, place the proposed work into the context of the spectrum of barriers to widespread deployment and adoption.

V. Goal of the Agreement

At the beginning of this section, complete the following sentence. Please be succinct.

The goal of this project is to … *<Complete the sentence with a brief description of the goal(s) and how the goal(s) will be met. Goals can be technical, economic or social. Please be brief, two to three sentences maximum.>*

VI. Objectives of the Agreement

The objectives of this project are to … *<Complete this sentence with the objectives, which are things that will be measurable or knowable at the end of **this** project.>*

If the improvements that your project will make are not amenable to measurement, surrogate performance metrics that can be measured must be given. Describe the methodology or procedure that will be used at the completion of the project to determine if the performance metrics have been achieved.

List and describe technical or economic objectives, or desired conditions outside the project itself that will result from the success of the project.

VII. Task 1.0 Administration

The administrative tasks must be included in every agreement and the language does not change except for the following:

- Applicants can propose to change Task 1.4 from monthly to quarterly progress reports.
- Applicants can propose to delete or modify Task 1.8, Establish the PAC, and Task 1.9, Conduct PAC Meetings.

Otherwise, do NOT change anything in the administrative tasks.

VIII. Technical Tasks (Tasks 2 through n)

This is the area in the Scope of Work where the technical work to be performed under this Agreement is set forth. The work effort should be divided into a series of logical, discrete and sequential tasks. Each task has the following components:

- Task Name
- The goal of this task is to ...
- The Recipient shall:
- Products

A. The Goal

The goal of this task is to ... *<Complete the sentence with a brief description of the goal(s). Please be brief, two to three sentences maximum.>*

B. The Recipient shall …

List each individual **activity** with a separate bullet if there are more than two individual activities and begin each bullet with a verb to complete the sentence beginning with "The Recipient shall." Organize activities in the order in which they will occur. Use this section to describe the essential elements of the process

you will use to complete the project. The contents of each product shall also be described in this section.

For Example:

The Recipient shall:

- Prepare the X Test Plan. This plan shall include, but is not limited to ...
- Conduct research in accordance with the X Test Plan.
- Prepare the X Test Results Report. This report shall include, but is not limited to, the following ...

Please note that if a project is for demonstration, or if a project involves testing, one of the tasks should be Test Plan preparation. The Test Plan should include considerations such as the number of hours of operation, the type of monitoring to be preformed, the manner in which data will be validated, analyzed, and reported.

C. Products:

Product(s):

- *<Insert 1st product (name only)>*
- *<Insert 2nd product (name only)>*

Only the names of each product shall appear in the "Products" section. Use exactly the same name to identify a product (report, data set, project plan, etc.) in the activity and in the list of products.

Products incorporate the knowledge and understanding gained by performing the activities, and are submitted to the Energy Commission for review, comment and approval. Products include, but are not limited to, written reports that describe methods, test plans, results of testing, analysis of data, conclusions, and recommendations for future study, workshop agendas and summaries, description and photographs of equipment/product developed, summaries of advisory group meetings, computer software with written instructions for data input and use of the software, if intended for public or Energy Commission use, and production prototypes. The summaries of the Products should be sufficiently detailed to be of use to stakeholders and other researchers. The level of detail should be sufficient for an observer to assess whether the project objectives and goals have been successfully met.

D. Task n-1 Technology Transfer Activities

Change the language as appropriate for your project.

E. Task n Production Readiness Plan

Change the language as appropriate for your project

IX. Examples of Different Types of Technical Products *(These are examples, which you may modify for use in your project. You may create other products as needed, but please adhere to the patterns shown.)*

1. Written Notification

- Provide a Written Notification regarding _____, to the Commission Project Manager. *(Give it a unique name based on the content and the project.)* The letter shall include but is not limited to written documentation that the _____ is ready for *(testing, viewing, submission for certification, etc.*) and the date such (*testing, viewing, submission for certification, etc.)* shall begin, and shall include photographs.

Product: Written Notification regarding _____

2. Test Plans

- Prepare the _____Test Plan. *(Give it a unique name, such as the Site A Test Plan. Test plans and testing procedures should be described in detail including factors such as instrumentation, data collection, data analysis, statistical analyses, and performance curves. Test results shall include relationships among performance, efficiency, emissions, temperature, pressure and all other parameters that qualify and quantify the subject technology.)* The Test Plan shall include, but is not limited to:

  - a description of the process to be tested;
  - the rationale for why the tests are required;
  - predicted performance based on calculations or other analyses;
  - test objectives and technical approach;
  - a test matrix showing the number of test conditions and replicated runs;
  - a description of the facilities, equipment, instrumentation required to conduct the tests;
  - a description of test procedures, including parameters to be controlled and how they will be controlled; parameters to be measured and instrumentation to measure them; calibration procedures to be used; recommended calibration interval; and maintenance of the test log;
  - a description of the data analysis procedures;
  - a description of quality assurance procedures;

- contingency measures to be considered if the test objectives are not met;
- *<add additional bullets specific to the project as needed>*.

Product(s):

- Draft _____ Test Plan
- Final _____ Test Plan

3. Interim Reports (*This applies to all product reports. Examples include task and subtask reports, test reports, data sets, databases and computer model development or application. Monthly reports and the final report are treated separately as shown in the Scope of Work.)*

- Prepare the_____ Report *(Give it a unique name, such as the ABC Test Report or 123 Database. If an interim report is based on earlier work in this project, then the titles should relate to each other. After the title insert a description of the product.)* This report shall include, but is not limited to, the following*: (List the elements of the report in separate bullets.)*

For example, if the Interim Report is a Test Report, use the following description:

The Test Report shall include, but is not limited to, the following:

- the Test Plan;
- test results;
- analysis;
- conclusions;
- recommendations;
- photographs as appropriate;
- *<add additional bullets specific to the project as needed>*.

For example, if the Interim Report is a Task or Subtask Report, use the following description:

The Task or Subtask Report shall include, but is not limited to, the following:

- the goal of the task or subtask;
- the description of the approach used;
- list of activities performed;
- description of the results and to what degree the goal was achieved;
- significant issues encountered and how they were addressed;

- a discussion of the implications regarding the success or failure of the results, and the effect on the budget and the overall objectives of the project;
- photographs as appropriate;
- *<add additional bullets specific to the project as needed>*.

Product(s):

- Draft _____ Test (Task, Database, etc.) Report
- Final _____ Test (Task, Database, etc.) Report

4. Bills of Materials or Equipment Lists

- Prepare a Bill of Materials (or Equipment List) for _____. *(Give it a unique name.).* This document shall include but is not limited to:
  - a description of each item;
  - test protocols and codes applicable to each item;
  - cost estimates or bids for each item.

Product: Bill of Materials (or Equipment List) for_____

5. Site Selection (optionally, this can be incorporated into a Test Plan)

- Determine Site Selection Details for the field test site, including but not limited to the following, and obtain Commission Project Manager approval:
- Type of site, i.e., <Sites for Wind Energy Storage Projects>
  - Residential
    - Specify type of dwelling: single family, multiple family including number of units, apartment, townhouse, etc.
    - Specify age of dwelling: new home construction, model home, existing home (indicate approximate age)
  - Commercial (specify warehouse, retail, office, etc.) <Sites for Wind Energy Storage Projects>
- Number of sites
- Location, i.e., climate zone, area, or city
- Timing of testing (i.e., season or month), length and frequency of testing
- Agreement with site owner, to address issues such as:
  - Details of test, including dates, length of test
  - Site owner input and feedback on test conditions
  - Access to site
  - Insurance and indemnity
  - Contingency if damages are caused by test
  - Equipment installation and removal

Once the site is selected, Recipient shall enter into an agreement with the site owner and make a copy of the agreement available to the Commission Project Manager upon request.

Product: Written Notification of Site Selection

ATTACHMENT D

BUDGET TEMPLATE AND INSTRUCTIONS

[The budget template and instructions for this solicitation is a separate Microsoft Excel document. The template can be accessed at www.energy.ca.gov/contracts as part of this solicitation package.]

ATTACHMENT E

SCHEDULE OF PRODUCTS AND DUE DATES TEMPLATE AND INSTRUCTIONS

[The schedule of products and due dates template and instructions for this solicitation is a separate Microsoft Excel document. The template can be accessed at www.energy.ca.gov/contracts as part of this solicitation package.]

ATTACHMENT F

TARGETED TECHNOLOGY AREAS

This release of the Emerging Technology Demonstration Grant (ETDG) will focus on demonstrating energy efficient emerging technologies for four different categories: 1) Industrial, 2) Water and Wastewater, 3) Data Centers, and 4) Energy Storage for customer-side-of-the-meter applications. Listed below are examples of project types under each technology category. The listed project types are just examples and the list is not an exhaustive enumeration of eligible projects. The technology to be demonstrated must, however, be beyond the "proof-of-concept" stage with a convincing proof of performance at a laboratory or a pilot scale. The technology categories and examples in each category are as follows:

Industrial Demonstration Project

- Industrial process heating or cooling from renewable resources.
- Waste heat recovery.
- Energy efficient industrial heating, cooling or refrigeration.

Data Center Projects

- Data center efficiency (cooling or electrical use).
- Direct current server systems.

Electricity Storage for Customer-side Applications

- Energy Storage for peak load reduction.
- Energy Storage for load management or demand response.

Note: An Energy Storage project that solely delivers power quality or Uninterruptable Power Supply (UPS) benefits is not eligible unless it also provides reduction in electrical energy or demand.

Water and Wastewater Projects

- Energy and water use optimization of process water, wastewater and potable water treatment, industrial systems (e.g., membrane technology, desalination, demineralization, zero liquid discharge, etc.).
- Reduction in industrial waste water that saves energy on site.
- New technologies that integrate renewable resources (biomass, solar, etc.) into infrastructure and operation of water and wastewater treatment plant systems.
- Development and utilization of lower energy intensity water sources (e.g., water recycling, stormwater, etc.).
- Agricultural irrigation system energy efficiency.

The emerging energy efficient technologies should be applicable to any one of the energy intensive industrial segments in California. However, technologies that are

widely used in California industries and not tied to a specific energy intensive industry (such as motors, pumps, drives, compressors, etc.) are also eligible.

ATTACHMENT G

STAGE 1 EVALUATION/SCORING CRITERIA

Project Screening Criteria – Pass/Fail **Project Must Pass ALL Criteria to Progress to Submission of Complete Proposal for Scoring, Ranking, Award, and Funding Stages**	**Pass/Fail**
1. Project Summary – Three Pages Maximum (12 Point Font Minimum). a. Clearly describes the proposed emerging technology and its current stage of development. b. Clearly states the purpose and scope of the proposed emerging technology demonstration, and outlines the issues the demonstration will address. c. Summarizes the technical approach and principal tasks required to accomplish the technology demonstration. d. Describes the relevant technical, siting, and implementation issues that must be addressed to accomplish demonstration project's objectives and ensure timely installation. e. Explains why the demonstration is unique, not duplicative, and is needed or necessary to promote adoption by the market. f. Describes the duration of the project. g. Includes the grant amount requested and how much match, either in cash or in-kind service or equipment, will be provided. h. Clearly lists research product(s)/result(s).	☐ **Pass** ☐ **Fail**
2. Addresses Emerging Targeted Technology Areas a. Unequivocally belongs to at least one of the technology demonstration categories identified in the Targeted Technology Areas (see Attachment F).	☐ **Pass** ☐ **Fail**
3. Time Frame - Completed within two (2) years of award. a. The proposed project shall be able to be completed within 24 months from project start date.	☐ **Pass** ☐ **Fail**
4. Match Funding – a. At least twenty-five percent (25%) of requested PIER funding is provided as match in form of in-kind services, equipment (hardware/software), or cash.	☐ **Pass** ☐ **Fail**

5. Proof of Technical Feasibility, Reliability and Safety. a. The abstract tells how to and where to access the validated, detailed data on its prototype or pilot-scale performance. The data should be from a prototype or a pilot-scale unit that has enough operating hours to demonstrate that the technology can perform with reliability and safety at an industrial site.	☐ **Pass** ☐ **Fail**
6. Demonstrate Site Appropriate for Emerging Technology and Applicable Emerging Technology Market. a. The project has a committed industrial demonstration site and provides a name and contact information to verify the availability of the industrial site for the demonstration or performance validation. The proposal has also identified additional potential industrial demonstration sites within an electric or natural gas utility in California. The industrial site where the technology is to be demonstrated is consistent with the potential/intended market(s) or application for the proposed technology. b. The size of the industrial demonstration project is large enough to provide meaningful data to facilitate commercialization of the technology in its intended market.	☐ **Pass** ☐ **Fail**
7. Coordination and Cooperation with IOU(s)/POU(s) for Measurement & Verification (M&V) Purposes. a. The proposal acknowledges and commits to work with the IOU(s)/POU(s), in whose territory the project is conducted and will permit M&V procedures for documenting and confirming the performance of the emerging technology during conduct of the demonstration project.	☐ **Pass** ☐ **Fail**

ATTACHMENT H

STAGE 2 EVALUATION/SCORING CRITERIA

Scoring Scale

All Applicants whose abstracts pass Stage 1 screening will be invited to submit full proposals to Stage 2. All proposals submitted to Stage 2 that pass screening will be evaluated for merit based on the following technical and policy evaluation criteria, using the scale shown in the table below.

0	Not responsive to the criterion
1-2	Response is minimal
3-4	Responds only marginally to relevant considerations under the criterion
5-6	Responds satisfactorily to most relevant considerations under the criterion
7-8	Responds satisfactorily to all relevant considerations under the criterion
9	Responds completely, accurately, and convincingly to all relevant considerations under the criterion
10	Response is complete, specific, and superior, both quantitatively and qualitatively

Each criterion is rated on scale of 0 to 10, with zero (0) being the lowest and ten (10) being the highest possible point for that criterion. Each criterion has an assigned weight factor and the final score for each criterion is a composite of how the proposal is rated on the criterion and its weight. **Minimum passing score is 700 out of possible 1000 points.** Proposals that are submitted by California-based entities and that receive the minimum score of 700 can have preference points added to their scores as outlined in Attachment I.

1. Project Proposal – Demonstration Project Goals and Objectives

Possible Points: 0-10
Weighting Factor: 7
Maximum Score Possible: 70

The extent to which the proposal demonstrates that:

a. The demonstration project goals and objectives are responsive to the Targeted Technology Areas (see Attachment F).

b. The proposal has clearly identified a bench-scale or pilot-scale project that has proven the performance, reliability, and safety characteristics of the proposed demonstration technology.

2. Project Connection to the Market and Industry Partners

Possible Points: 0-10
Weighting Factor: 15
Maximum Score Possible: 150

The extent to which:

a. The technology being demonstrated meets a well defined market need applicable to California industries as evidenced by specific market research, surveys and the Applicant's assessment of market drivers.

b. The project includes appropriate plans to initiate and sustain transfer of the technology results into the marketplace, including plans for deployment of successfully demonstrated technology at a large scale within a 3-4 year time frame. The project team has the experience, skills, and connections to the marketplace to help ensure market transfer of the technology and/or product(s) and the knowledge that result from the demonstration project.

c. The proposal has a letter of commitment from a stable industrial partner with a demonstration site suitable for the technology at an appropriate scale and duration.

3. Project Scope of Work

Possible Points: 0-10
Weighting Factor: 20
Maximum Score Possible: 200

The extent to which:

a. The work scope includes an overall project goal that addresses the key issues and responds to the market needs and the Targeted Technology Areas identified in Attachment F.

b. The work schedule is logical; reasonably sequences tasks: and allocates time, labor, equipment, and facilities per task.

c. The proposal explicitly describes risks associated with the proposed project (such as insurance, permitting requirements, etc.) and describes proposed mitigation strategies.

d. The work scope clearly identifies responsible parties to perform each task(s) and explicitly details project management activities.

e. The proposal contains a well-defined set of intermediate products and final products.

f. The proposal includes a clear and methodical plan by which the Applicant's Project Manager will provide regular monthly progress reports to the Commission Project Manager and coordinate the reporting of information to all project team members.

g. The proposal systematically identifies and assesses project risks (such as plans for completing the project successfully if proposed match funds are significantly reduced or lost, loss of demonstration site(s), etc.) and includes plans for mitigating these risks. The proposal describes clear and complete contingency plans that are appropriate for the risks identified.

4. Project Need–Advances Science or Technology Not Adequately Addressed by Competitive or Regulated Markets

Possible Points: 0-10
Weighting Factor: 8
Maximum Score Possible: 80

The extent to which the proposal:

a. Identifies the current status of the proposed technology and makes a case for the need for demonstration of the technology/product(s). Applicants are expected to identify and discuss current technology and how this demonstration will improve, supplement, and/or replace it. Responds to why the project objective(s) is not adequately addressed by the competitive or regulated markets and establishes the need for demonstration of the technology.

b. This evaluation will also consider existing and planned funding by market participants and the extent to which existing and planned funding reasonably maintains technological advancement.

c. Discusses why PIER funding is necessary to advance the proposed science and/or technology.

5. Impact and Benefits for California

Possible Points: 0-10
Weighting Factor: 10
Maximum Score Possible: 100

The extent to which:

a. The proposed project will provide benefits to California's electricity and/or natural gas ratepayers including industrial customers. Provide explanations of how the proposed project will impact specific industrial market segments in California and how California-specific processes will benefit from the proposed technology demonstration.

b. The proposal describes technology demonstration that provides energy efficiency advantages compared with existing commercially available technologies and discusses environmental impacts and/or benefits, if any.

c. The proposal describes and quantifies the baseline economics of the technology that will be displaced by the new technology being demonstrated. The baseline economics will be used in measuring potential success and economics impact of the demonstration in achieving technical and economic goals of the proposed project goals.

d. The proposal identifies quantitative market impacts for the demonstration project, corresponding to changes in the documented baseline conditions. The proposal should identify the market for the technology demonstration results, quantify the size of the market, the expected impact on the market if the technology demonstration is successful, and justify the reasonableness of the assumptions.

6. Project Manager and Project Team

Possible Points: 0-10
Weighting Factor: 8
Maximum Score Possible: 80

The extent to which:

a. The Project Manager has specific organizational, administrative, and team lead skills and a proven track record for managing technology demonstration projects successfully, including the capability of administering the agreement to control costs, maintaining the project schedule, providing quality control of the products produced by the team, and communicating effectively.

b. The team structure provides clear roles and responsibilities among the team members, and establishes clear lines of communication to ensure that team members share information and meet their individual responsibilities.

c. The team has the technical experience and proven skills appropriate for proposed specific technology demonstration especially as it applies to industrial sites.

d. The project team has past success in taking research, development, and technology demonstration products to market and the experience, skills, and market connections to help ensure market transfer of the products and knowledge that result from the project.

e. The applicant has had extensive experience in installing/managing energy equipment in industrial sites comparable to the proposed demonstration site.

f. The project team demonstrates they have the financial capability to carry out the project, such as the strength of the Company in terms of years in business, number of employees, relationships with industrial partner(s) and/or success with past demonstration projects.

g. The industrial partner/demonstration site is actively and materially involved with the project.

7. Project Cost-Effectiveness (Cost)

Possible Points: 0-10
Weighting Factor: 10
Maximum Score Possible: 100

The proposed project's cost-effectiveness will be evaluated relative to the overall public benefits being provided by the project. This criterion will consider the total cost of the project, the amount of PIER funds being requested, the likelihood that the project will provide significant science or technology benefits, the estimated value of the public benefits to be provided by the project, and the timeframe in which those benefits will occur.

The extent to which:

a. The PIER funds requested are appropriate, relative to the goals and objectives of the project.

b. The PIER funds requested are commensurate with the value of public benefits not adequately addressed by regulated or competitive markets which the project will provide.

c. The portions of the budget dedicated to demonstration technology transfer actions are significantly greater than the administrative costs.

8. Match Funding (Cost)

Possible Points: 0-10
Weighting Factor: 12
Maximum Score Possible: 120

Note that, in general, the percentage of match funds (cash or in-kind) should be proportional to the amount of private versus public benefits resulting from the project. Also, in general, the percentage of match funds should be greater for innovations that are closer to market adoption. Projects, whose results lead to products and services that can be commercialized within a short timeframe, will

need a higher percentage of match funds than projects whose results are further removed in time from commercialization.

The extent to which:

a. The level of match funding proposed is appropriate relative to the public and private benefits provided by the project and the timeframe to commercialization.

b. The match share provided for the proposed project exceeds the minimum 25% of requested PIER funding in the form of in-kind services, equipment (hardware/software), or cash equivalent(s).

c. The proposed match funds are secure.

d. The proposal describes a strategy for replacing match funding if the proposed match funds are significantly reduced or lost.

9. Project Budget (Cost)

Possible Points: 0-10
Weighting Factor: 10
Maximum Score Possible: 100

The extent to which:

a. The project budget information provided is consistent with the scope of work. The project budget itemizes reasonable costs for personnel, subcontractors, equipment, operating expenses, insurance, supplies, permits, fees, etc., for each task.

b. The proposal shows the total budget, the PIER reimbursable budget, and the match funds budget, indicating all funding sources, for each task described in the scope of work.

c. The proposal itemizes the budget in sufficient detail to justify the expenditures by task. The budget includes the required information for personnel services, subcontractors, operating expenses, overhead(s), and total expenditures.

d. The budget shows that key personnel and subcontractors will be committed to the project for the appropriate number of hours and functions to accomplish the activities described in the Scope of Work.

ATTACHMENT I

PREFERENCE POINTS FOR CALIFORNIA-BASED ENTITIES

Pursuant to AB 2267 (Fuentes, 2008), the California Energy Commission's Public Interest Energy Research (PIER) Program must give a priority to "California-based entities" (CBEs) when making awards. To implement this law, the Energy Commission will award preference points if the proposal meets the criteria for a CBE as described below.

An Applicant must meet all of the following to receive CBE preference points:

1. The proposal must include a CBE as either the prime contractor/recipient or a subcontractor. A CBE is a corporation or other business form organized for the transaction of business that:
    - Either has its headquarters or an office in California AND
    - Substantially manufactures the product or substantially performs the research within California that is the subject of the award.

2. The budget must show that the CBE(s) will receive 50% or more of the PIER funds awarded.
    - If the CBE is the prime contractor/recipient, then this means that no more than 50% of the awarded PIER funds can be subcontracted to non-CBEs.
    - The 50% applies to the PIER funds and does not include the match funding. For example, if a proposal has a PIER budget of $100,000, then regardless of how much match funding is pledged, the budget must show $50,000 or more in PIER funds going to CBEs.
    - The 50% requirement can be made up of multiple CBEs. For example, a proposal in which a prime contractor/recipient CBE will receive 25% of PIER funds and a subcontractor CBE will receive 25% of PIER funds, meets this 50% requirement.

3. The proposal must receive a passing score prior to any preference points being added.

The preference points will be awarded as follows:

Score (prior to preference points being added)	***Additional Points***
700-750	10
760-810	20
820-870	30
880-930	40
940-1000	50

The total possible points, not counting any preference points, for this solicitation is **1000**. The minimum passing score is **700** points. Each proposal that has a score of **700** points or more and qualifies for this preference will receive additional points based on the table above.

Applicants wanting to qualify for these preference points MUST fill out and submit with their proposal the CBE Preference Points form included as Attachment J in this solicitation.

ATTACHMENT J

CALIFORNIA-BASED ENTITIES PREFERENCE POINTS FORM

[The CBE preference points form for this solicitation is a separate Microsoft Word document. The template can be accessed at www.energy.ca.gov/contracts as part of this solicitation package.]

ATTACHMENT K

PREVAILING WAGE SPECIAL CONDITION TEMPLATE

PUBLIC WORKS AND PAYMENT OF PREVAILING WAGE

A. Recipient/General Requirements

1. Recipient shall comply with state prevailing wage law, Chapter 1 of Part 7 of Division 2 of the Labor Code, commencing with Section 1720 and Title 8, California Code of Regulations, Chapter 8, Subchapter 3, commencing with Section 16000, for any "public works" (as that term is defined in the statutes) performed on the Project funded by this Agreement. For purpose of compliance with prevailing wage law, the Recipient shall comply with provisions applicable to an awarding body. Compliance with state prevailing wage law includes without limitation: payment of at least prevailing wage as applicable; overtime and working hour requirements; apprenticeship obligations; payroll recordkeeping requirements; and other obligations as required by law.

2. Recipient shall certify to the Energy Commission on each Payment Request Form, that prevailing wages were paid to eligible workers who provided labor for work covered by the payment request and that the Recipient and all contractors complied with prevailing wage laws.

3. Prior to the release of any retained funds under this Agreement, the Recipient shall submit to the Energy Commission a certificate signed by the Recipient and all contractors performing public works activities stating that prevailing wages were paid as required by law. The required certificate follows these special conditions.

B. Flowdown Requirements

Recipient shall ensure that all agreements with its contractors to perform work related to this Project contain the following provisions:

1. Contractor shall comply with state prevailing wage law, Chapter 1 of Part 7 of Division 2 of the Labor Code, commencing with Section 1720; and Title 8, California Code of Regulations, Chapter 8, Subchapter 3, commencing with Section 16000, for all construction, alteration, demolition, installation, repair or maintenance work over $1,000 performed under the contract. Contractor's obligations under prevailing wage laws include without limitation: pay at least the applicable prevailing wage for public works activities performed on the Project; comply with overtime and working hour requirements; comply with apprenticeship obligations; comply with payroll recordkeeping requirements; and comply with other obligations as required by law.

2. Contractor shall ensure that the above requirements are included in all its contracts and any layer of subcontracts for activities for the Project.

ATTACHMENT L

PREVAILING WAGE COMPLIANCE CERTIFICATE

After the public works[1] activities funded by this Agreement are complete, Recipient must fill out and sign this certificate and obtain the signatures from all of its contractors and any layer of subcontractors involved in public works funded by this Agreement.

This certificate must be completed and submitted to the Energy Commission Project Manager prior to the release of the retained funds under this Agreement.

Recipient:

Energy Commission Agreement Number:

Date Public Works Completed:

Recipient hereby certifies as follows:

1. State prevailing wage law, Chapter 1 of Part 7 of Division 2 of the Labor Code, commencing with Section 1720 and Title 8, California Code of Regulations, Chapter 8, Subchapter 3, commencing with Section 16000, has been complied with for the "public works" (as that term is defined in the statutes) funded by this Agreement, including payment of at least prevailing wage as applicable; overtime and working hour requirements; apprenticeship obligations; payroll recordkeeping requirements; and other obligations as required by law.

2. All contracts and every layer of subcontracts involving public works funded by the above-referenced Agreement contained requirements that the contractor or subcontractor comply with prevailing wage law and pay prevailing wages in accordance with the requirements of the Labor Code.

3. The contractors and subcontractors have maintained labor records as required by the Labor Code and such records shall be made available upon request.

4. The undersigned Recipient acknowledges that disbursement of the retention by the California Energy Commission is expressly made in reliance upon the representations made in this certification.

[1] Public works is defined in Chapter 1 of Part 7 of Division 2 of the Labor Code, commencing with Section 1720.

Recipient:

Signature of Authorized Representative:_____

Printed/Typed Name:

Title:

Date:

Each contractor and subcontractor performing public works (e.g., construction, alteration, demolition, installation, repair or maintenance work) for the Project must sign below. Include additional pages if necessary.

Contractors and subcontractors hereby certify as follows:

1. The contract with the Recipient or the Recipient's contractor to perform work funded by the above-referenced Agreement contained requirements that the contractor and all its subcontractors comply with prevailing wage law and pay prevailing wages in accordance with the requirements of the Labor Code.

2. Prevailing wages have been paid as required by law.

3. Contractor and all its subcontractors have maintained labor records as required by the Labor Code and such records shall be made available upon request.

4. The undersigned acknowledges that disbursement of the retention by the California Energy Commission to the Recipient is expressly made in reliance upon the representations made in this certification.

Construction Contractor #1

Company Name:

Signature of Authorized Representative:_____

Printed/Typed Name:

Title:

Date:

Construction Contractor #2

Company Name:

Signature of Authorized Representative:_____

Printed/Typed Name:

Title:

Date:

Construction Contractor #3

Company Name:

Signature of Authorized Representative:_____

Printed/Typed Name:

Title:

Date:

Construction Contractor #4

Company Name:

Signature of Authorized Representative:_____

Printed/Typed Name:

Title:

Date:

Construction Contractor #5

Company Name:

Signature of Authorized Representative:_____

Printed/Typed Name:

Title:

Date:

Construction Contractor #6

Company Name:

Signature of Authorized Representative:_____

Printed/Typed Name:

Title:

Date:

ATTACHMENT M

PREVAILING WAGE COMPLIANCE QUESTIONS AND ANSWERS

1. Is Payment of Prevailing Wage Required?

Yes. Any Recipient whose project involves "public works" as the term is defined in defined in Chapter 1 of Part 7 of Division 2 of the Labor Code, commencing with Section 1720, must pay prevailing wages in accordance with the law.

2. Does prevailing wage apply to private entities?

Yes. A private entity must pay prevailing wage under California law if the project involves public works.

3. How do I know if my project involves public works?

The California Labor Code beginning at section 1720 deals with this issue. Labor Code sections 1720 and 1771 define public works as:

- Construction (includes work performed during the design and preconstruction phases of construction including but not limited to, inspection and land surveying work).
- Alteration
- Demolition.
- Installation.
- Repair work.
- Maintenance work.

These Labor Code sections can be found online at http://www.leginfo.ca.gov/calaw.html.

Below are some examples (this list is not exhaustive) of the types of activities that typically lead to finding that a project is a public work:

- Cement work such as pouring a cement pad.
- Site preparation such as grading.
- Surveying.
- Electrical work such as wiring.
- Carpentry work.
- Limited inspection activities.

4. What kind of trades or workers must be paid prevailing wage?

The California Department of Industrial Relations (DIR) Division of Labor Statistics and Research (DLSR) makes the final determination on which trades and/or workers are covered by prevailing wage laws. DLSR maintains a list of the covered trades/workers that are entitled to prevailing wage for public works commercial construction projects. See www.dir.ca.gov/dlsr/statistics_research.html or call the DLSR Prevailing Wage Hotline (415) 703-4774 for more information about these trades.

Generally, workers such as the following would be covered trades:

- Operating engineer (heavy equipment operator)
- Surveyor
- Carpenter
- Cement Mason
- Electrician
- Laborer

The following types of workers usually would NOT be covered trades entitled to prevailing wage:

- Engineer
- Project superintendent / construction manager / project manager
- Architect
- Planner
- Computer programmer

The above examples are for general information only. If you have questions about whether a worker is in a covered trade requiring payment of prevailing wages, you should check directly with DIR.

5. What if I am unsure whether my project involves public works and prevailing wage must be paid? How Should I Budget if I am Unsure About Prevailing Wage?

You are encouraged to determine if your project involves public works as soon as possible. In order to determine if your project is a public work, you will need to contact the California Department of Industrial Relations (DIR). They can be reached at (415) 703-4774. If you do not know whether your project is a public work and you have not obtained a determination from DIR that the project is not a public work, you must budget with the assumption that the project is a public work and comply with the prevailing wage laws, including but not limited to the payment of prevailing wages.

On the budget, please indicate whether your budget includes amounts for the payment of prevailing wage. You must indicate "yes" unless you have received a determination from DIR that the project is not a public work.

If you do not budget for prevailing wage, and it is later determined that the project involves public works and prevailing wage must be paid, you may be liable for damages and penalties. You also cannot later increase your grant award if it is determined that prevailing wages apply and increase project costs higher than budgeted. The amount requested in your proposal is the maximum that will be paid. Any increased costs for payment of prevailing wage must be paid with match funds. The Energy Commission's grant award amount does not change or increase if the applicant's costs increase for any reason.

6. How do I get assistance in determining whether the project involves public works?

First, call the DLSR Prevailing Wage Hotline, (415) 703-4774. The Prevailing Wage Hotline can frequently give advice quickly on routine questions. If the Prevailing Wage Hotline is unable to answer your question, you will need to write to the Director of DIR for a coverage determination on whether your project involves public works. You would include all the relevant facts and documents related to the project. DIR regulations, Title 8 California Code of Regulations, section 16001(a)(1), provides that any interested party may file a request with the Director of DIR to determine coverage under the prevailing wage laws. The request can be either for a specific project or type of work to be performed that the interested party believes may be subject to or excluded from coverage as public works under the Labor Code. The full text of DIR's regulations can be found at: http://ccr.oal.ca.gov, (Title 8, Division 1, Chapter 8, Subchapter 3, Article 2). Send requests for a coverage determination to:

Department of Industrial Relations
Office of the Director
455 Golden Gate Avenue
San Francisco CA 94102

7. How long will it take to get an answer?

We do not know, but hope that the question can be asked and answered informally and quickly through the Prevailing Wage Hotline. If you need to submit a request to the Director of DIR, it will take longer to get a coverage determination.

8. What happens if I make a request to DIR but do not have a decision, or am still unsure whether prevailing wage must be paid, by the time the Energy Commission makes an award at a business meeting, or by the time I execute the grant agreement?

In this case, the Energy Commission would execute a grant agreement with a budget that assumes prevailing wage is required. If the Recipient, prior to performing the activities in question, then receives a determination from DIR that the project is not a public work, then the Energy Commission can execute an amendment with the Recipient to decrease the budget accordingly. The prevailing wage terms and conditions can also be removed.

9. What if I submit a proposal to the Energy Commission with a project that I say is not a public work, and the Energy Commission believes that it might be a public work? How would we resolve our differences?

We would request that you first call the Prevailing Wage Hotline. If you do not receive an answer, we would request that you write a letter to DIR and ask DIR to make the decision. If DIR says the project is a public work, then you will need to pay prevailing wages. If you do not obtain a DIR determination that the project is not a public work requiring the payment of prevailing wage, then you must assume that the project is a public work and comply with the prevailing wage laws, including paying prevailing wages.

10. If my project is a public work, how do I know what prevailing wages are required in order to prepare a budget?

If your project is a public work, please submit your budget with the applicable prevailing wage for each trade entitled to prevailing wage as determined by DLSR. For prevailing wage rate information for commercial projects, see www.dir.ca.gov/dlsr/statistics_research.html or call the Prevailing Wage Hotline (415) 703-4774. If your project involves residential construction, the rates are not listed on DIR's website, and you must call the DLSR Prevailing Wage Hotline.

11. What do I do if workers will be used who do not fit neatly into one of the categories on the DIR website?

Contact DLSR and describe the type of trade you anticipate will be required in your project and ask whether there is an existing prevailing wage already set by DLSR.

12. Does prevailing wage apply to a public entity that performs project work with its own employees?

No.

13. If my project is considered a public work, then are there any special requirements?

Yes. For example, the grantee must make sure that covered workers are paid prevailing wage. There are other requirements, such as keeping payroll records, complying with working hour requirements, and apprenticeship obligations. See the Labor Code and the sample terms and conditions, Special Condition regarding Prevailing Wage.

ATTACHMENT N

SAMPLE PIER GRANT TERMS AND CONDITIONS

[The sample PIER grant terms and conditions for this solicitation is a separate portable document file (.pdf). The document can be accessed at www.energy.ca.gov/contracts as part of this solicitation package. Please note that the California Energy Commission reserves the right to modify these terms and conditions prior to issuing funding awards.]